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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Takumi Kinoshita

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EXAMINER

DANG, HUNG Q

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,261

Applicant(s)

KINOSHITA, TAKUMI

Examiner

Hung Q. Dang

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03/233 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/22/04, 05/01/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it is written in **two paragraphs, more than 150 words in length, and exceeds 15 lines of text.**

According to MPEP § 608.01(b), the abstract should be in narrative form and generally **limited to a single paragraph within the range of 50 to 150 words. The abstract should not exceed 15 lines of text.** Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inokuchi et al. (US Patent 5,978,812) and Tomizawa et al. (US Patent 5,976,658).

Claims 1, 2, 7, and 9 recite a recording and reproduction disk control unit (or a disk device having a recording and reproduction disk control unit) which controls recording and reproduction of digital data onto/from a disk-shaped recording medium that has a data recordable area where digital data composed of either one of both of image data and voice data are recorded and one, two or more management information areas where recording management information employed for management of the digital data is recorded, comprising: (1) a data recording and reproduction means for

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recording digital data and recording management information onto the disk-shaped recording medium and reading the digital data and the recording management information from the recording medium; (2) an image/voice data management means for monitoring whether there is a room for recording of digital data; (3) a recording management information management means for temporarily holding recording management information and outputting the recording management information to the data recording and reproduction means when the image/voice data management means detects that there is a room for recording of the digital data by the data recording and reproduction means, wherein: (4) the data recording and reproduction means records recording management information in the two or more management information areas in turn, (5) backup information concerning recording of the recording management information is included in the recording management information recorded on the disk-shaped recording medium (6) the recording management information temporarily held by the recording management information management means includes the backup information; (7) the recording management information means updates the backup information to the recording management information temporarily held by the recording management information management means to output to the data recording and reproduction means.

Inokuchi et al. teach an information processor (or a disk device having such an information processor) which uses a method of information processing that enables a CD-R to be used as a rewritable recording medium (abstract, column 4, lines 6-15), comprising: recording and reproduction of digital data onto/from a disk-shaped

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recording medium (column 4, lines 6-15) that has a data recordable area where digital data are recorded (column 2, lines 27-31) and one, two or more management information areas where recording management information employed for management of the digital data is recorded (column 2, lines 42-59; column 13, lines 44-48), comprising: (1) a data recording and reproduction means for recording digital data and recording management information onto the disk-shaped recording medium and reading the digital data and the recording management information from the recording medium ("CD-R drive device" in Fig. 1; column 4, lines 15-16;); (2) an data management means (CPU 6, RAM 7, and CD-R DRIVE 5 in Fig. 1) for monitoring whether there is a room for recording of digital data (column 19, lines 21-22, 39-45; column 20, lines 50-55, 64-67; column 21, lines 1-2, 6-11, 15-17); (3) a recording management information management means (CPU 6, RAM 7, and CD-R DRIVE 5 in Fig. 1) for temporarily holding recording management information (column 1, lines 52-58) and outputting the recording management information to the data recording and reproduction means when the digital data management means detects that there is a room for recording of the digital data by the data recording and reproduction means (column 7, lines 60-64; column 21, lines 4-7), wherein: (4) the data recording and reproduction means records recording management information in the two or more management information areas in turn (column 1, lines 59-67; column 2, lines 1-6, 56-59), (5) backup information concerning recording of the recording management information is included in the recording management information recorded on the disk-shaped recording medium (information used for updating in claims 1, 2, 7, and 9); (6) the recording management

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information temporarily held by the recording management information management means includes the backup information ("updated housed file information tables, control table, and the index table in memory" in claims 2, 7, and 9); (7) the recording management information means updates the backup information to the recording management information temporarily held by the recording management information management means to output to the data recording and reproduction means (claims 2, 7, and 9).

Inokuchi et al. do not teach the digital data being either image or voice.

Tomizawa et al. teach using a CD-R to store images, graphic, or music is very well known (column 1, lines 11-13).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the concept of storing digital images or voice into the information processor that enables using CD-R as a rewritable recording medium because, according to Tomizawa et al., the CD-R is well known as a means for recording and reproducing images or music data (column 1, lines 11-13).

Therefore, the invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent unexpected results to the contrary.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inokuchi et al. (US Patent 5,978,812) and Tomizawa et al. (US Patent 5,976,658) as applied to claims 1, 2, 7, and 9 above, and further in view of Ginter et al. (US Patent 5,915,019).

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Claim 4 recites the recording management information to include disconnection-during-recording information, which indicates whether or not power disconnection of the disk recording and reproduction control unit is generated while the recording management information is recorded, as backup information.

See the teachings of Inokuchi et al. and Tomizawa et al. above.

Inokuchi et al. and Tomizawa et al. do not teach the recording management information to include disconnection-during-recording information, which indicates whether or not power disconnection of the disk recording and reproduction control unit is generated while the recording management information is recorded, as backup information.

Ginter et al. teach the concept of using the power-fail flag to facilitate recovery processing in systems for secure transaction management and electronic rights protection (column 114, lines 50-57).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the concept of using the power-fail flag to facilitate recovery processing in systems for secure transaction management and electronic rights protection taught by Ginter et al. into the information processor which uses a method of information processing that enables a CD-R to be used as a rewritable recording medium to store digital image and music taught by Inokuchi et al. and Tomizawa et al. to include disconnection-during-recording information which indicates whether or not power disconnection of the disk recording and reproduction control unit is generated while the recording management information is recorded, as backup

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information because, according to Ginter et al., doing such would facilitate recovery processing (column 114, lines 50-57).

Therefore, the invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent unexpected results to the contrary.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inokuchi et al. (US Patent 5,978,812) and Tomizawa et al. (US Patent 5,976,658) as applied to claims 1, 2, 7, and 9 above, and further in view of Agha et al. (US Patent 6,216,226) and Braxton (US Patent 4,141,006).

Claim 8 recites the recording management information management means selecting the recording management information, which is most newly recorded with no power disconnection generated during recording at startup.

See the teachings of Inokuchi et al. and Tomizawa et al. above.

Inokuchi et al. also teach selecting the most newly recorded control information at startup of the recording (column 2, lines 14-32).

Inokuchi et al. and Tomizawa et al. do not teach the management information generated with no power disconnection during recording.

Agha et al. teach a concept of dynamically switching a boot process in cases where a system failure has occurred within a network environment (column 1, lines 54-56) by performing a diagnostics test, which is free of previous failures.

Braxton teaches a system failure being a loss of power (column 6, lines 10-13).

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One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the concept of using a startup process, which is free of failure taught by Agha et al. such as a power disconnection as suggested by Braxton, into the recording and reproduction device taught by Inokuchi et al. and Tomizawa et al. to maintain system integrity, according to Agha et al. (column 1, lines 29-31).

Therefore, the invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent unexpected results to the contrary.

Claims 1-3, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dieleman et al. (US Patent 5,341,356) and Inokuchi et al. (US Patent 5,978,812).

Claims 1, 2, 3, and 9 recite a recording and reproduction disk control unit (or a disk device having a recording and reproduction disk control unit) which controls recording and reproduction of digital data onto/from a disk-shaped recording medium that has a data recordable area where digital data composed of either one of both of image data and voice data are recorded and one, two or more management information areas where recording management information employed for management of the digital data is recorded, comprising: (1) a data recording and reproduction means for recording digital data and recording management information onto the disk-shaped recording medium and reading the digital data and the recording management information from the recording medium; (2) an image/voice data management means for monitoring whether there is a room for recording of digital data; (3) a recording management information management means for temporarily holding recording

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management information and outputting the recording management information to the data recording and reproduction means when the image/voice data management means detects that there is a room for recording of the digital data by the data recording and reproduction means, wherein: (4) the data recording and reproduction means records recording management information in the two or more management information areas in turn, (5) the recording management information recorded on the disk-shaped recording medium includes recency information which indicates whether the recording management information is most newly recorded, as backup information.

Claim 7 recites: (6) backup information concerning recording of the recording management information is included in the recording management information recorded on the disk-shaped recording medium (7) the recording management information temporarily held by the recording management information management means includes the backup information; (8) the recording management information means adds the backup information to the recording management information temporarily held by the recording management information management means to output to the data recording and reproduction means.

Dieleman et al. teach a recording and reading device (or a disk device having a recording and reproduction disk control unit), which controls recording and reproduction of digital data onto/from a disk-shaped recording medium (column 3, lines 61-64) that has a data recordable area where digital data composed of either one of both of image data and voice data are recorded (column 10, lines 36-39) and two or more management information areas (each area corresponds to an area to contain a control

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file, which contains a set of control information) where recording management information (control file) employed for management of the digital data is recorded (column 4, lines 66-68; column 5, line 1), comprising: (1) a data recording and reproduction means for recording digital data and recording management information onto the disk-shaped recording medium and reading the digital data and the recording management information from the recording medium (Fig.1 and Fig. 4); wherein: (4) the data recording and reproduction means records recording management information, which is contained in control files, which in turn are contained in information volumes (column 4, lines 57-60) in the two or more management information areas in turn (column 8, lines 38-40); (5) the recording management information recorded on the disk-shaped recording medium includes recency information which indicates whether the recording management information is most newly recorded, as backup information, which is the lead-out signal of the last information volume ("lead-out signal" in column 8, lines 53-61; column 9, lines 39-41, 45-54).

Dieleman et al. do not teach: (2) an image/voice data management means for monitoring whether there is a room for recording of digital data; (3) a recording management information management means for temporarily holding recording management information and outputting the recording management information to the data recording and reproduction means when the image/voice data management means detects that there is a room for recording of the digital data by the data recording and reproduction means; (6) backup information concerning recording of the recording management information is included in the recording management information recorded

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on the disk-shaped recording medium (7) the recording management information temporarily held by the recording management information management means includes the backup information; (8) the recording management information means adds the backup information to the recording management information temporarily held by the recording management information management means to output to the data recording and reproduction means.

Inokuchi et al. teach (2) an data management means (CPU 6, RAM 7, and CD-R DRIVE 5 in Fig. 1) for monitoring whether there is a room for recording of digital data (column 19, lines 21-22, 39-45; column 20, lines 50-55, 64-67; column 21, lines 1-2, 6-11, 15-17); (3) a recording management information management means (CPU 6, RAM 7, and CD-R DRIVE 5 in Fig. 1) for temporarily holding recording management information (column 1, lines 52-58) and outputting the recording management information to the data recording and reproduction means when the digital data management means detects that there is a room for recording of the digital data by the data recording and reproduction means (column 7, lines 60-64; column 21, lines 4-7); (6) backup information concerning recording of the recording management information is included in the recording management information recorded on the disk-shaped recording medium (information used for updating in claims 1, 2, 7, and 9); (7) the recording management information temporarily held by the recording management information management means includes the backup information ("updated housed file information tables, control table, and the index table in memory" in claims 2, 7, and 9); (8) the recording management information means updates the backup information to the

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recording management information temporarily held by the recording management information management means to output to the data recording and reproduction means (claims 2, 7, and 9).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate: (2) the means for monitoring free space; (3) means for storing and outputting management information when there is room for the data; (6),(7), (8) the concept of updating the backup information taught by Inokuchi et al., into the recording and reading device taught by Dieleman et al. because, according to Inokuchi et al., it is necessary to monitor the memory so that a required space is assured, at least, to perform freeze operation on write-once CD (CD-R in Inokuchi et al. and CD-WO in Dieleman et al.), otherwise, the recording medium cannot be read back (column 19, lines 9-20).

Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent of unexpected results to the contrary.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dieleman et al. (US Patent 5,341,356) and Inokuchi et al. (US Patent 5,978,812) as applied to claims 1-3, 7, and 9 above, and further in view of Ginter et al. (US Patent 5,915,019).

Claim 4 recites the recording management information to include disconnection-during-recording information, which indicates whether or not power disconnection of the disk recording and reproduction control unit is generated while the recording management information is recorded, as backup information.

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See the teachings of Dieleman et al. and Inokuchi et al. above.

Dieleman et al. and Inokuchi et al. do not teach the recording management information to include disconnection-during-recording information, which indicates whether or not power disconnection of the disk recording and reproduction control unit is generated while the recording management information is recorded, as backup information.

Ginter et al. teach the concept of using the power-fail flag to facilitate recovery processing in systems for secure transaction management and electronic rights protection (column 114, lines 50-57).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the concept of using the power-fail flag to facilitate recovery processing in systems for secure transaction management and electronic rights protection taught by Ginter et al. into the recording and reading device with free-space-monitoring feature taught by Dieleman et al. and Inokuchi et al. to include disconnection-during-recording information which indicates whether or not power disconnection of the disk recording and reproduction control unit is generated while the recording management information is recorded, as backup information because, according to Ginter et al., doing such would facilitate recovery processing (column 114, lines 50-57).

Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent of unexpected results to the contrary.

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Claims 1, 2, 5, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmori (US Patent 5,737,290) and Inokuchi et al. (US Patent 5,978,812).

Claims 1, 2, 5, 6, and 9 recite a recording and reproduction disk control unit (or a disk device having a recording and reproduction disk control unit) which controls recording and reproduction of digital data onto/from a disk-shaped recording medium that has a data recordable area where digital data composed of either one of both of image data and voice data are recorded and one, two or more management information areas where recording management information employed for management of the digital data is recorded, comprising: (1) a data recording and reproduction means for recording digital data and recording management information onto the disk-shaped recording medium and reading the digital data and the recording management information from the recording medium; (2) an image/voice data management means for monitoring whether there is a room for recording of digital data; (3) a recording management information management means for temporarily holding recording management information and outputting the recording management information to the data recording and reproduction means when the image/voice data management means detects that there is a room for recording of the digital data by the data recording and reproduction means, wherein: (4) the data recording and reproduction means records recording management information in the two or more management information areas in turn, (5) the recording control information includes operational state information which indicates whether the recording management information is recorded on the disk-

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shaped recording medium during recording or digital data or not, as backup information (6) backup information concerning recording of the recording management information is included in the recording management information recorded on the disk-shaped recording medium (6) backup information is not included in the recording management information temporarily held by the recording management information management means; and (7) the recording management information means adds the backup information to the recording management information temporarily held by the recording management information management means to output to the data recording and reproduction means.

Ohmori teaches a recording and reproduction device (or a disk device having a recording and reproduction disk control unit) which controls recording and reproduction of digital data onto/from a disk-shaped recording medium (column 6, lines 53-55) that has a data recordable area where digital data composed of either one of both of image data and voice data (column 2, lines 38-41) are recorded and one, two or more management information areas (column 2, lines 38-50) where recording management information employed for management of the digital data is recorded, comprising: (1) a data recording and reproduction means for recording digital data and recording management information onto the disk-shaped recording medium and reading the digital data and the recording management information from the recording medium (Fig. 1, column 3, lines 24-67; column 4, lines 1-10); wherein: (4) the data recording and reproduction means records recording management information in the two or more management information areas in turn (column 17, lines 6-67; column 18, lines 1-26);

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(5) the recording control information includes operational state information which indicates the time of volume creation, and time of volume updating (column 18, lines 19-20; column 20, lines 48-50), which is used to indicate whether the recording management information is recorded on the disk-shaped recording medium during recording or digital data or not, as backup information; (6) backup information concerning recording of the recording management information is included in the recording management information recorded on the disk-shaped recording medium (column 17, lines 6-67; column 18, lines 1-26); (6) backup information is not included in the recording management information temporarily held by the recording management information management means, but recorded directly (column 43, lines 52-54); and (7) the recording management information means adds the backup information to the recording management information temporarily held by the recording management information management means to output to the data recording and reproduction means (column 44, lines 10-12).

Ohmori does not explicitly teach: (2) an image/voice data management means for monitoring whether there is a room for recording of digital data; and (3) a recording management information management means for temporarily holding recording management information and outputting the recording management information to the data recording and reproduction means when the image/voice data management means detects that there is a room for recording of the digital data by the data recording and reproduction means.

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Inokuchi et al. teach: (2) an data management means (CPU 6, RAM 7, and CD-R DRIVE 5 in Fig. 1) for monitoring whether there is a room for recording of digital data (column 19, lines 21-22, 39-45; column 20, lines 50-55, 64-67; column 21, lines 1-2, 6-11, 15-17); and (3) a recording management information management means (CPU 6, RAM 7, and CD-R DRIVE 5 in Fig. 1) for temporarily holding recording management information (column 1, lines 52-58) and outputting the recording management information to the data recording and reproduction means when the digital data management means detects that there is a room for recording of the digital data by the data recording and reproduction means (column 7, lines 60-64; column 21, lines 4-7).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the free-space monitoring means; and the recording management information management means taught by Inokuchi et al. into the recording and reproduction device taught by Ohmori because, according to Inokuchi et al., it is necessary to monitor the free space on optical disks, especially the CD-R, to achieve compatibility with standard CD-ROM (column 19, lines 9-20).

Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent of unexpected results to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q. Dang whose telephone number is 571-270-1116. The examiner can normally be reached on M-Th:7:30-5:00; every other Friday: 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on 571-272-0898. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hung Dang
H&D

Hung Dang
Patent Examiner

Shanon A. Foley
SHANON A. FOLEY
SUPERVISORY PATENT EXAMINER